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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,783	10/17/2003	Kiyotaka Murashima	50212-546	7725

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MCDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER

DOAN, JENNIFER

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/686,783

Applicant(s)

MURASHIMA ET AL.

Examiner

Jennifer Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Applicants' communication filed on January 31, 2005 has been carefully studied by the Examiner. The arguments advanced therein, considered together with the amendment made to the claims, are persuasive. In view of further search, however, and the consequent discovery of a relevant prior art document, a new rejection is set forth below. This action is **not** made final.

#### ***Specification***

1. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 7 rejected under 35 U.S.C. 102(e) as being anticipated by Rondinella et al. (U.S. Patent 6,591,039).

With respect to claim 1, Rondinella et al. (figures 4 and 6) disclose a method of fabricating a grating device which comprises an optical waveguide (F) and a grating formed in the optical waveguide (F) along a longitudinal direction (z) thereof, comprising a first step of irradiating a refractive index change inducing light on the optical waveguide (F) through a phase grating mask (9) positioned at a side of the optical waveguide (F) (abstract and column 7, lines 11-15) so as to satisfy a first relative arrangement relation among the optical waveguide (F) (see figure 4); and a second step of irradiating the refractive index change inducing light on the optical waveguide (F) through the phase grating mask (9) shifted, while the phase grating mask is shifted along the longitudinal direction of the optical waveguide by a distance of one half of a grating period  $M$  ( $M$  : odd number) (column 9, lines 15-29) of the phase grating mask so as to satisfy a second arrangement relation different from the first arrangement relation among the optical waveguide (see figure 6).

With respect to claim 7, Rondinella et al. (column 1, lines 16-28) disclose a grating device fabricated by a method, comprising an optical waveguide and a grating formed in the optical waveguide along a longitudinal direction thereof.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rondinella et al. (as cited above).

With respect to claim 2, Rondinella et al. substantially disclose all the limitations of the claimed invention. Rondinella et al. do not explicitly disclose an irradiation amount of the refractive index change inducing light in the first step is equal to that of the refractive index change inducing light in the second step. However, the irradiation

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amount of refractive index change inducing light in the first step being equal to that of the refractive index change inducing light in the second step is considered to be obvious, since setting up the irradiation amount of refractive index change inducing light in each step would be dependent on a person of ordinary skill in the art like to do. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Rondinella with the irradiation amount of refractive index change inducing light in the first step being equal to that of the refractive index change inducing light in the second step for the purpose of facilitating manufacture of a grating device.

With respect to claims 3 and 4, Rondinella et al. substantially disclose all the limitations of the claimed invention. Rondinella et al. do not explicitly disclose the numbers of times of the first step and the second step are repeated. However, the numbers of times of the first step and the second step being repeated is considered to be obvious, since how many times of the first step and the second step being repeated would be dependent on a person of ordinary skill in the art like to do. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Rondinella with the number of times of the first and second steps to repeat for the purpose of facilitating manufacture of a grating device.

With respect to claims 5 and 6, Rondinella et al. substantially disclose all the limitations of the claimed invention. Rondinella et al. do not explicitly disclose an

irradiation amount of the refractive index change inducing light in the first step is changed or not changed every time the first step is repeated, and an irradiation amount of the refractive index change inducing light in the second step is changed or not changed every time the second step is repeated. However, the irradiation amount of the refractive index change inducing light in the first or second step being changed or not changed every time the first or second step being repeated is also considered to be obvious, since setting up the irradiation amount of refractive index change inducing light in the first or second step being changed or not changed every time the first or second step being repeated would be dependent on a person of ordinary skill in the art like to do. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Rondinella with the irradiation amount of refractive index change inducing light in the first step and second step changed or not changed every time the first step and the second step are repeated for the purpose of facilitating manufacture of a grating device.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rondinella et al. (as cited above) in view of Sakano (U.S. Patent 6,611,638).

With respect to claim 8, Rondinella et al. substantially disclose all the limitations of the claimed invention.

Rondinella et al. do not disclose an optical transmission line and a grating device disposed at a predetermined position of the optical transmission line.

However, Sakano (figure 2) discloses an optical communication system (12-1) comprising an optical transmission line (as shown in figure 2); and a grating device (32-1) disposed at a predetermined position of the optical transmission line. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Rondinella's device with an optical transmission line and a grating device disposed at a predetermined position of the optical transmission line (accordance with the teaching of Sakano) for the purpose of obtaining a grating device with low in loss of pass-through light.

### ***Conclusion***

8. Applicants' arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cole et al. (U.S. Patent 6,072,926) disclose an optical waveguide grating.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone



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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Jennifer Doan". The signature is written in a cursive, flowing style.

Jennifer Doan

Patent Examiner

April 13, 2005